1.(Currently Amended) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the ~~said~~ system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form; and

a navigation processing unit that receives the sensor data, and requests map data from the ~~said~~ navigation map data memory associated with the sensor data, and computes the map image from the ~~said~~ map data.

2.(Currently Amended) The vehicle navigation system of claim 1, where the~~in said~~ map data includes a data indicative of a unit Cornu spiral.

3.(Currently Amended) The vehicle navigation system of claim 2, where the~~in said~~ navigation processing unit computes the ~~said~~ map image using Cornu spiral polynomial coefficients stored in the ~~said~~ navigation map data memory.

4.(Currently Amended) The vehicle navigation system of claim 2, where~~in~~ terms of polynomials of the unit Cornu spiral are stored in the ~~said~~ navigation map data memory and the ~~said~~ map image is computed using the ~~said~~ terms of polynomials of the unit Cornu spiral.

5.(Currently Amended) The vehicle navigation system of claim 4, where the ~~in said~~ terms of polynomials are associated with Taylor series expressions indicative of the ~~said~~ Cornu spiral.

6.(Currently Amended) The vehicle navigation system of claim 5, where the ~~in said~~ Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

7.(Currently Amended) The vehicle navigation system of claim 5, where the ~~in said~~ navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived.

8.(Currently Amended) The vehicle navigation system of claim 5, where the ~~in said~~ navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

9.(Currently Amended) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, the ~~said~~ system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form; and

means for receiving the sensor data, for requesting map data from the ~~said~~ navigation map data memory associated with the sensor data, and for computing the map image from the ~~said~~ map data.

10.(Currently Amended) The vehicle navigation system of claim 9, where the ~~in said~~ map data includes data indicative of a unit Cornu spiral.

11.(Currently Amended) The vehicle navigation system of claim 10, where the ~~in said~~ navigation processing unit computes the ~~said~~ map image using Cornu spiral polynomial coefficients stored in the ~~said~~ navigation map data memory.

12.(Currently Amended) The vehicle navigation system of claim 11, where~~in~~ terms of polynomials of the unit Cornu spiral are stored in the ~~said~~ navigation map data memory and the ~~said~~ map image is computed using the ~~said~~ terms of polynomials of the unit Cornu spiral.

13.(Currently Amended) The vehicle navigation system of claim 12, where the~~in said~~ terms of polynomials are associated with Taylor series expressions indicative of the ~~said~~ Cornu spiral.

14.(Currently Amended) The vehicle navigation system of claim 13, where the~~in said~~ Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

15.(Currently Amended) The vehicle navigation system of claim 13, where the~~in said~~ navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived.

16.(Currently Amended) The vehicle navigation system of claim 13, where the ~~in said~~ navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

17.(Currently Amended) A method of computing a map image in a vehicle navigation system that receives sensor data from a plurality of sensors, comprising:

providing map data indicative of roadways stored in Cornu spiral form in a navigation map data memory device;

receiving the sensor data, and in response thereto requesting map data from the ~~said~~ navigation map data memory device; and

computing the map image from the ~~said~~ map data.